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DEVELOPING A PHYSICAL PLANT FOR ENGINEERING TECHNOLOGY. PROCEEDINGS, CONFERENCE ON JUNIOR COLLEGE FACILITIES, (TAMPA, JANUARY 23-25, 1964), VOL. 2.

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WITH A LIMITED BUILDING BUDGET OF TWO MILLION DOLLARS, SOUTHERN TECHNICAL INSTITUTE WAS ABLE TO CONSTRUCT A PERMANENT PHYSICAL PLANT CAPABLE OF HANDLING PRESENT AND FUTURE ENROLLMENTS. THE PROCEDURES TAKEN AND THE RESULTING CAMPUS FACILITIES ARE BRIEFLY OUTLINED, AND SOME GENERAL PLANNING SUGGESTIONS ADVANCED BY THE AUTHOR. MANY OF THE COST-REDUCTION PROCEDURES ARE UNIQUE IN THEIR DEVIATION FROM ACCEPTED STATE POLICIES. FOR INSTANCE, S.T.I. DEPARTED FROM THE ESTABLISHED POLICY OF REQUIRING A "LOCK AND KEY" JOB AND ALLOCATED ALMOST THE TOTAL BUDGET FOR CONSTRUCTION AND ONLY A SMALL PORTION FOR EQUIPMENT. TO PROVIDE EQUIPMENT, MANY OF THE FURNITURE ITEMS WERE BUILT BY SCHOOL CARPENTERS AND THEN INSTALLED BY THE FACULTY AND STAFF. THE RESULTANT PHYSICAL PLANT PROVIDED SOME UNIQUE FEATURES WHICH ARE OUTLINED AND INCLUDE SUCH ITEMS AS HAVING ALL THE BUILDINGS CONNECTED BY COVERED WALKWAYS. FIVE GENERAL SUGGESTIONS ARE GIVEN BY THE AUTHOR WHICH MAY HELP PLANNERS PROVIDE SIMILAR FEATURES ON LIMITED BUDGETS. IN EVALUATING THE RESULTS IN OPERATION, IT WAS EVIDENT THAT CLOSE COOPERATION AND COORDINATION OF DEPARTMENTAL AND ARCHITECTURAL PERSONNEL COULD PROVIDE AN EFFECTIVE AND UNIQUE FACILITY ON A LIMITED BUDGET. (BH)

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## THIRD SESSION

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# DEVELOPING A PHYSICAL PLANT FOR ENGINEERING TECHNOLOGY

H. L. McClure

Southern Technical Institute began operations in March of 1948 as part of the extension division of Georgia Tech. We started with 116 students and seven curricula. Last fall, we had 992 students and 12 curricula, ten of which are accredited by the Engineers' Council for Professional Development. The remaining two have not yet been submitted for accreditation.

Our initial allocation in 1948, which had to cover not only operating expenses for a year, but the acquisition of equipment and the equipping of laboratories, was $60,000.00. This year, our operating budget is $800,000.00.

The budget with which we began made the acquisition of a permanent campus impossible. In fact we were indeed fortunate to be able to obtain a part of the Naval Air Station at Chamblee, Georgia, as an initial campus. While we were grateful for any home, the stark service barracks did not enhance the collegiate atmosphere.

Consequently, as we moved from crisis to crisis during our early years, we were continually searching for ways to establish a permanent campus. Everytime we thought we had a good lead toward our objective, it did not develop.

Our first real break came early in 1958. Cobb County had no unit of higher education and was aggressively seeking one. The Governor, who was a staunch backer of education was persuaded to allocate $2,000,000 to the Board of Regents of the University System to build a campus for the Southern Technical Institute in Cobb County.

It was obvious that two million would not build a complete campus for 1,500 students, which was the minimum size that we believed should be built. After several weeks of meetings and discussions of this matter, the Cobb County and Marietta city officials agreed to provide the following:

1. A choice of three building sites, each of approximately 90 acres.
2. A 840-car parking lot with adequate lighting.
3. All utilities furnished.
4. All streets, sidewalks, curbs, and street lighting as needed for fifty years.

Even with these concessions our allocation was indeed small for the job ahead; therefore, we began to devise ways of stretching our funds.

First, at our insistence, the Regents agreed to depart from their established policy of requiring a "lock and key" job. This departure allowed us to put almost the entire allocation into buildings; and to replace furniture and equipment as funds became available.

Second, we had a fine cabinet maker as head of our woodshop. He, working from sketches provided by the department heads, built complete furniture for our chemistry, physics, civil, and industrial laboratories. This fine craftsman has now retired and the woodshop has been eliminated, but his craftsmanship will be evident for many years.

Each department of the school developed its needs in classrooms, laboratories, special areas, and unusual features. The architects incorporated these needs within the limits of the available money, and presented each department its plans. These were criticized by the department and the plans were modified accordingly. This procedure was repeated several times.

Many money-saving steps not normally practiced were used through necessity, and some of these required close architectural coordination. For example, our faculty connected all of the laboratory equipment (which saved over $40,000) but the exact location of each piece of equipment had to be predetermined and the exact outlet and connector provided at that point.

We moved to the new campus in time to start the fall quarter of 1961. Incidentally, the problems involved in trying to move an entire college campus twenty-four miles within three weeks is quite a story in itself.

From our two million budget were were able to provide the following:

1. Eight buildings, four of which are two-story.
2. 167,000 square feet of usable floor space
3. a. 40 classrooms
   b. 45 laboratories
   c. Library
   d. Kitchen and dining area
   e. Bookstore
   f. Post Office
   g. Twenty-four four-man offices
   h. Fourteen two-man offices
   i. Thirteen department head offices
   j. The administration building

Many of the features of our campus are not as unusual in Florida as they are in Georgia. For example:

1. All buildings are connected by covered walkways.
2. The second floor overhangs on the front side to provide covered walkways along the buildings. First-floor rooms open directly onto these walkways.
3. There is limited use of hallways on the second floor; instead, rooms are "clustered" around open stairways. This arrangement gains us eight additional classrooms.
4. One entire side of most classrooms is plate glass.
5. The campus was laid out to be a "walking campus." The large lot for student parking is at the front of the campus. Two new dormitories now under construction adjacent to the administration building will provide parking out of the general campus area. These dormitories will also have covered walkways connected to the campus.

6. A number of special laboratories were provided, such as a TV studio in the electrical building, a dark room for photogrammetric development for civil engineering, and constant temperature-humidity room for the concrete laboratory. These have all proved to be wise choices.

For people considering the construction of a campus for a school such as ours, I have the following general suggestions:

1. If possible, design the buildings to the general specifications set forth by the people who are to use the facilities, if these people have the experience to so specify. If this is not possible, then obtain suggestions from other schools. In this way some critical item may be included that would otherwise create difficulties. For example, the vent stack for the ozalid machine was not on the original drawings, probably because the architects did not know we had an ozalid machine or intended to use one.
2. If, at all possible, select an architect who is willing to consider unusual design and include the special features considered important by the faculty. He should, of course, be willing to work closely with the faculty at all stages of design.
3. Try to select a style of architecture that can be reasonably duplicated in the future or at least one that is compatible with other styles.
4. Consider the omission of second floor hallways as a means of increasing classrooms within the allotted square footage. We approached this plan with some trepidation because of the inconveniences that could develop. However, actual usage has shown these inconveniences to be minor when considering the extra space gained. If more than two floors is considered, however, the omission of hallways becomes difficult.
5. One room in each building should be provided as a general faculty work room to contain such things as a Ditto machine, one or two typewriters, a small drawing board, etc. This is one thing that we did not provide, and which we have found that we need. The "walking campus" concept makes the need more acute.

It is generally true that one is seldom satisfied with a new house, that he immediately starts finding things that should be changed when he moves in. Happily this has not been the case at Southern Tech. We have found things we would change, but these have been few in number and relatively minor in nature. I attribute this entirely to the continual close cooperation and coordination between the individual departments and the architects. Planning was so well done prior to the start of construction that change orders involving the academic or laboratory areas amounted to less than $2,000.00